



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/924,626	08/09/2001	Charles A. Shaffer	05272.00001	3166

22907 7590 09/17/2004

BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

FISCHER, JUSTIN R

ART UNIT	PAPER NUMBER
----------	--------------

1733

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/924,626

Applicant(s)

SHAFFER, CHARLES A.

Examiner

Justin R Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 July 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3 and 8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Staten (US 1,097,824, of record) and further in view of Ahmad (US 3,866,652, newly cited), Panaroni (US 5,254,405, of record), and Yunan (US 3,894,973, of record). Staten, Ahmad, Panaroni, and Yunan are applied in the same manner as set forth in the Non-Final Rejection mailed on April 2, 2004.

Staten teaches a tire construction having a core substantially filled with a mixture of "core bits" (comminuted rubber) and a rubber adhesive solution. In this instance, said mixture is made into a preform via a molding operation and subsequently placed within the tire cavity- it is evident that this method does not require a valve to introduce the material since it is not provided to the tire cavity in liquid form. However, one of ordinary skill in the art at the time of the invention would have found it obvious to include said mixture in the tire cavity as a liquid versus a solid preform since such a method eliminates complicated processing associated with molding, in particular the need to have a variety of differently sized molds to accommodate the wide variety of tire sizes. For example, Ahmad discloses a similar tire structure in which a mixture of glass or

Art Unit: 1733

ceramic particles and an adhesive material (urethane) is injected or pumped into a tire cavity via a valve (Column 3, Lines 45-65). Thus, at the time of the invention, the tire industry recognized the ability to transfer a particle-reinforced mixture into a tire cavity via a pump and valve assembly, such that the inclusion of a valve in the tire construction of Staten would have been obvious. As to the "adhesive material", Staten fails to expressly describe the adhesive material as "liquid virgin polyurethane". In any event, one of ordinary skill in the art at the time of the invention would have found it obvious to use polyurethanes as the specific adhesive material in Staten since it is extensively used as an adhesive or binder in the formation of tire components formed of chopped/comminuted tire particles, as shown for example by Panaroni (Column 1, Lines 14-51) and Yunan (Column 1, Lines 10-30, Column 2, Lines 50-59, and Column 3, Line 45). It is additionally noted that the adhesive/binder material of Ahmad is a polyurethane (Column 2, Lines 56+). Thus, polyurethanes represent an extremely well known adhesive or binder material (described as popular binder by Panaroni: Column 1, Line 40) that would have been readily appreciated in the tire construction of Staten.

As to claim 8, the process described by Ahmad involves pumping a particle-reinforced mixture into a tire and subsequently curing said mixture (Column 1, Lines 10-20 and Column 4, Lines 1-5).

Response to Arguments

3. Applicant's arguments filed July 2, 2004 have been fully considered but they are not persuasive. Regarding Staten, applicant contends that the reference teaches a tire filled with a core of relatively large solid tire particles and an adhesive/binder material,

Art Unit: 1733

wherein said particles and adhesive are assembled in a mold and subsequently force into the tire cavity under pressure. It is agreed that Staten teaches such a method; however, the reference states that the tire particles are “formed of small pieces or particles (emphasis added) of worn out or discarded inner tubes, shoes, and vehicle tires” (Page 1, Lines 60-65). Thus, Staten is directed to a puncture-proof tire construction in which the cavity is filled with an assembly of small tire particles and an adhesive/binder material. While Staten suggests the assembly be a preform, Ahmad recognizes the ability to inject or pump a particulate reinforced assembly through a valve into a tire cavity. It is emphasized that Ahmad is directly analogous to the teachings of Staten in that both suggest the inclusion of a particle-reinforced assembly within the tire cavity to provide puncture protection. One of ordinary skill in the art at the time of the invention would have been particularly motivated to pump or inject the particle-reinforced assembly into the tire cavity, as opposed to forming a preform, since it eliminates the need to have a plurality of differently sized molds (for differently sized tires). Therefore, the prior art clearly recognizes the ability to pump or inject a particle-reinforced assembly into a tire cavity and as such, it would have been obvious to use such a technique in the method of Staten, there being no conclusive evidence of unexpected results to establish a criticality for such a method.

As to Panaroni and Yunan, they are applied to evidence the extremely well known use of liquid polyurethane as a binder/adhesive material in the manufacture of tire filling assemblies. It is further noted that Ahmad similarly describes the use of polyurethane as a binder/adhesive material. Thus, while Staten only broadly suggests

Art Unit: 1733

the use of an adhesive material, one of ordinary skill in the art at the time of the invention would have found it obvious to use liquid polyurethane as the adhesive since it represents one of the most common materials used in the manufacture of tire filling assemblies- it is further noted that Panaroni goes as far to say that "polyurethane is a popular binder which has been used to form composites with recycled rubber particles" (Column 1, Lines 40-45).

In summary, Staten is seen to substantially teach the method of the claimed invention, particularly the formation of a tire filling assembly of ground tire pieces (core bits) and an adhesive/binder material. While the method of Staten involves the formation of a preform, Ahmad recognizes the ability to pump or inject similar particle-reinforced assemblies into a tire cavity and as noted above, such a technique eliminates the need to have a plurality of differently sized molds, there being a reasonable expectation of success in modifying the teachings of Staten with Ahmad.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

Art Unit: 1733

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Blaine Copenheaver can be reached on (571) 272-1156. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Justin Fischer

September 8, 2004


BLAINE COPENHEAVER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700